STATE OF NEBRASKA
DEPARTMENT OF ROADS
ADDENDUM NO. 2
PROJECT NO. ENH-28(89)
CONTROL NO. 22252
CALL NO. 205
MISSOURI RIVER TRAIL – PHASE 2
LETTING DATE: DECEMBER 9, 2010

The Special Provisions are amended to include the following:

CONCRETE PROTECTION BARRIERS

The plans contain two special plans for concrete protection barriers, 3C (the existing four loop barrier plan) and 5C (the new six loop barrier plan). The use of either type barrier shall be allowed for this project with the following requirements:

1. If new barriers are to be fabricated for use on this project, only Special Plan 5C barriers shall be fabricated and supplied for use.

2. If existing barriers are to be used on this project, only barriers meeting Special Plan 3C and 5C will be allowed.

3. Only barriers from Special Plan 3C and 5C may be used on this project and they may be connected end to end with each other.

4. The barriers in Special Plans 3C and 5C shall be paid for as “Concrete Protection Barriers” and shall be the property of the Contractor at the conclusion of the project.

* * * * *

Plan sheet 124 is amended to include the following:

TRAFFIC CONTROL NOTES

Power for temporary Traffic Signals shall be coordinated and obtained by the Contractor from OPPD overhead power running along North River Drive.

Signal Controllers shall be provided by the Contractor and shall be installed as indicated in the traffic signal details included in the Special Plan 2C & 4C.

Traffic Signal lights may be either LED or incandescent.

Detection shall be installed for vehicles entering North River Drive from White Deer Lane and the driveways within the restricted traffic area controlled by temporary signalization. Detectors may be microwave radar or video detection.

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The plans are amended to include added sheet 128A, SPECIAL PLAN 4C - TEMPORARY TRAFFIC SIGNAL, as depicted on the attached sheet.

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The plans are amended to include added sheets 129A and 130A, SPECIAL PLAN 5C – CONCRETE PROTECTION BARRIER, as depicted on the attached sheet.

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Upon execution of the contract, the plans will be revised to reflect these changes.

DEPARTMENT OF ROADS

Original Signed by Michael H. Stoltenberg

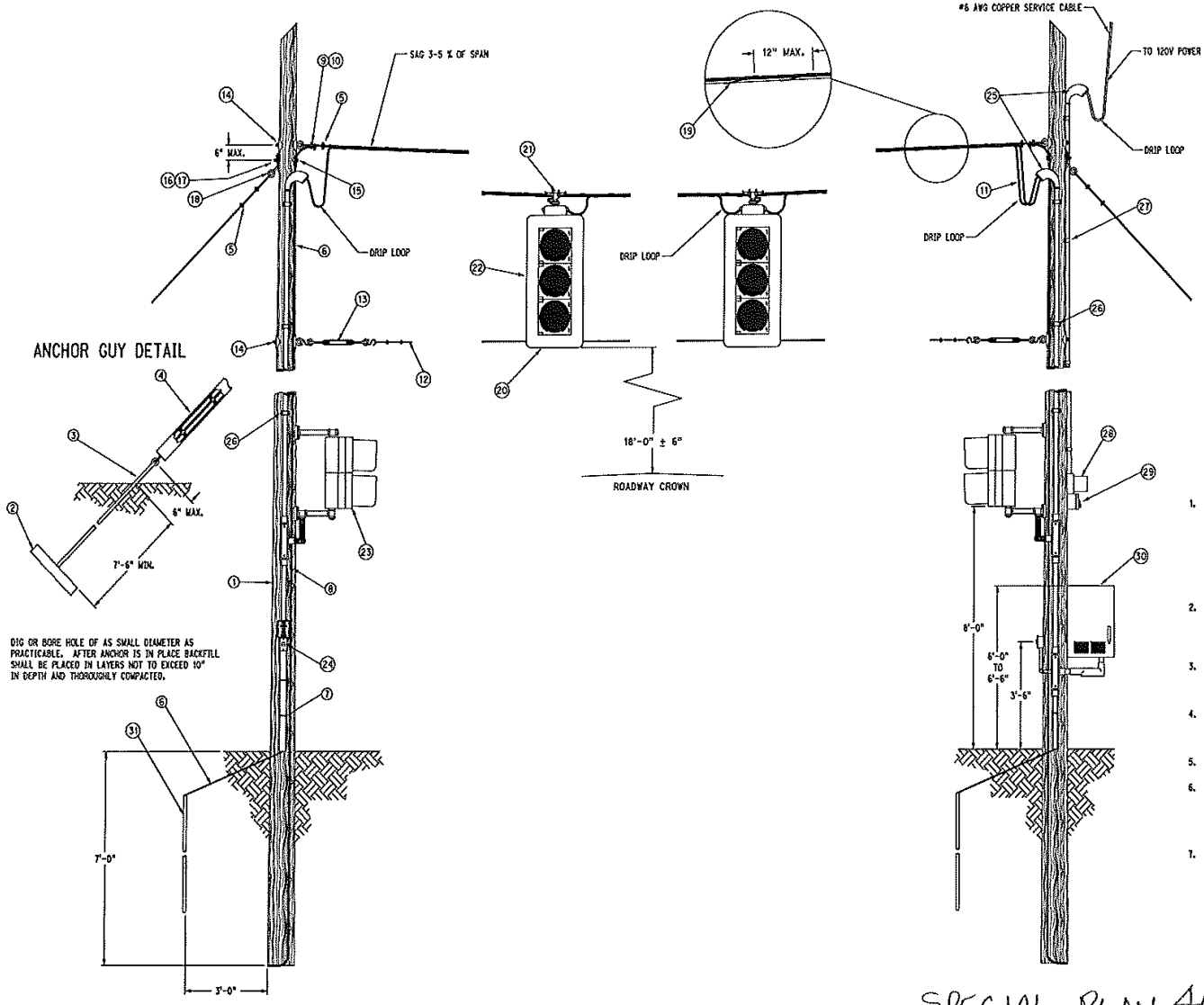
for Claude Oie
Construction Engineer

Issued: December 3, 2010

CO:205AD212

NOTICE: Only the contractors issued bidding proposals receive this addendum and responsibility for notifying any potential subcontractors or suppliers remains with the contractor.

Added Sheet 128A



ITEM NO.	DESCRIPTION
1	CLASS IV WOOD POLE
2	GUY WIRE ANCHOR MIN. 8" DIA.
3	5/8" X 8'-0" THIMBLEYE ANCHOR ROD
4	8'-0" GUY GUARD
5	3/8" HIGH STRENGTH 7 STRAND WIRE ROPE W/CABLE CLAMPS OR STRAND VISE
6	NO. 6 AWG COPPER GROUND WIRE
7	GROUND WIRE MOULDING
8	GROUND WIRE STAPLES
9	BONDING BOLT
10	BONDING CLIP
11	STRANDED 14 AWG 5/C TRAFFIC SIGNAL CABLE, IMSA 19-1
12	1/4" TETHER CABLE, SIEMANS MARTIN GRADE W/CABLE CLAMPS OR STRAND VISE
13	5/16" "S" HOOK AND TURNBUCKLE
14	3/4" THIMBLEYE BOLT W/1/4" X 3" SQUARE CURVED WASHERS
15	3/4" MACHINE BOLT W/1/4" X 3" SQUARE CURVED WASHER
16	1/2" X 4" LAG SCREW
17	3/8" X 2 1/2" X 7 1/4" LIFT PLATE
18	ANGLE THIMBLEYE
19	BARE ALUMINUM WIRE OR APPROVED LASHING MATERIAL
20	BREAKAWAY TETHER CLAMP
21	SPAN WIRE CLAMP AND HANGER
22	TRAFFIC SIGNAL
23	PEDESTRIAN SIGNAL
24	PEDESTRIAN PUSHBUTTON W/SIGN
25	SERVICE ENTRANCE HEAD
26	1 1/2" GALVANIZED CONDUIT (SIGNAL CABLES)
27	GALVANIZED CONDUIT (POWER SERVICE CABLES)
28	ELECTRIC METER (IF REQ'D)
29	CIRCUIT BREAKER (60A) AND BOX
30	SIGNAL CONTROLLER AND CABINET
31	5/8" X 10'-0" COPPERWELD GROUND ROD AND CLAMP

NOTES

1. THE LOCATIONS OF ALL AERIAL AND UNDERGROUND UTILITY FACILITIES ARE NOT INDICATED ON THESE PLANS. UNDERGROUND UTILITIES, WHETHER SHOWN OR NOT WILL BE LOCATED AND FLAGGED BY THE UTILITIES UPON REQUEST OF THE CONTRACTOR. NO EXCAVATION WILL BE PERMITTED IN THE AREA OF UNDERGROUND UTILITIES UNTIL ALL SUCH FACILITIES HAVE BEEN LOCATED AND IDENTIFIED TO THE SATISFACTION OF ALL PARTIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ALL UNDERGROUND AND AERIAL UTILITIES AND CONSTRUCTIONS.
2. ALL SURFACE MATERIALS THAT ARE DISTURBED BY EXCAVATION AND BACKFILLING OPERATIONS SHALL BE REPLACED AND RESTORED IN KIND EQUAL TO OR EXCEEDING THE ORIGINAL CONDITION, INCLUDING SODDING AND SEEDING.
3. ALL WORK SHALL BE NEAT, FIRST CLASS WORKMANSHIP CONFORMING TO THE NATIONAL ELECTRIC CODE AND ALL LOCAL ORDINANCES. ALL SPLICES IN THE TRAFFIC SIGNAL CABLE SHALL BE ENCLOSED.
4. POLE LOCATIONS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER. THEY SHALL BE SET BACK A MINIMUM OF 6' FROM THE EDGE OF ALL TRAVELED ROADWAYS.
5. POLES SHALL BE GUYED AS INDICATED ON PLANS.
6. SIGNAL HEADS SHALL BE CENTERED OVER THEIR APPROACH LANES AS SHOWN. WHEN TWO SIGNAL HEADS ARE PLACED ON AN APPROACH WITH ONLY ONE THRU LANE, THE SIGNAL HEADS SHALL HAVE A MINIMUM HORIZONTAL SEPARATION OF 10' AND SHALL BE EVENLY SPACED OVER THE THRU LANE.
7. THREE WAY AND FOUR WAY SIGNAL HEADS SHALL NOT BE TETHERED.

NEBRASKA DEPARTMENT OF ROADS
TRAFFIC ENGINEERING DIVISION

TEMP. TRAFFIC SIGNAL

DESIGNED		
REVIEWED		
APPROVED	TRAFFIC ENGINEER	DATE

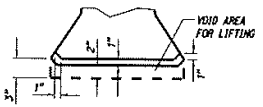
SPECIAL PLAN 4C

Added Sheet 129A

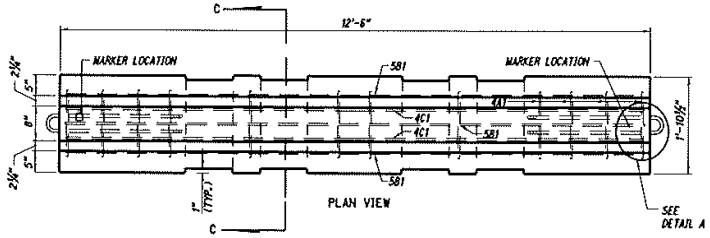
Roadway Design Division

(R2) ADDED SHEET

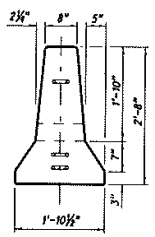
PROJECT NO. ENH-28(89) C.N. 22252 | SHEET NO.



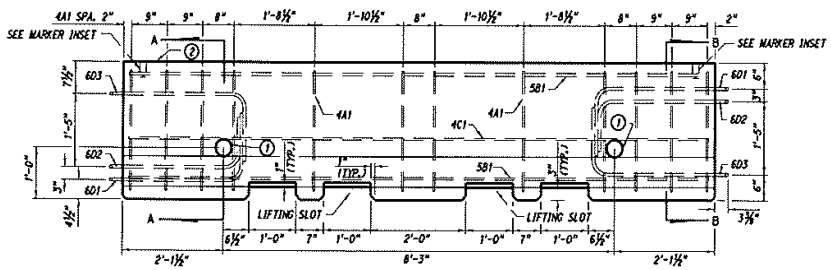
SECTION C-C
LIFTING SLOT DETAIL
(1" CHAMFER TO PREVENT SPALLING)



PLAN VIEW

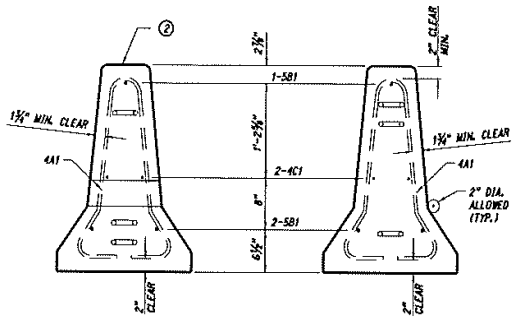


END VIEW



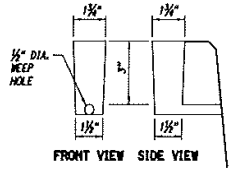
ELEVATION VIEW

MARKED END

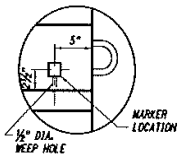


SECTION A-A (STIRRUP PLACEMENT)

SECTION B-B (STIRRUP PLACEMENT)



FRONT VIEW SIDE VIEW
MARKER INSERT



DETAIL A

NOTES:

THESE DETAILS ARE FOR THE FABRICATION AND INSTALLATION OF CONCRETE PROTECTION BARRIER. DETAILS SHOWN ARE TYPICAL.

CONCRETE PROTECTION BARRIERS SHALL BE MADE OF 5,000 psi CONCRETE AND BE PRECAST IN ACCORDANCE WITH APPLICABLE PORTIONS OF SECTION 705 IN THE STANDARD SPECIFICATIONS. THE FORMS MAY BE REMOVED WHEN THE CONCRETE HAS ATTAINED A COMPRESSIVE STRENGTH OF 2,175 psi. THE BARRIERS MAY BE TRANSPORTED WITHIN THE PLANT ONCE THE CONCRETE HAS ATTAINED A COMPRESSIVE STRENGTH OF 3,000 psi. THE BARRIERS MAY BE SHIPPED WHEN THE CONCRETE HAS ATTAINED A COMPRESSIVE STRENGTH OF 5,000 psi.

REINFORCING STEEL USED WITHIN THE CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-615 GRADE 60.

THE LOOP REINFORCING STEEL (BARS 601, 602 & 603) SHALL BE SMOOTH, MEETING THE REQUIREMENTS OF ASTM A 706 GRADE 60 OR ASTM A 615 GRADE 60. THE LOOP SHALL PASS A 180° BEND TEST ON A 2¾" PIN.

TENSILE REQUIREMENTS		CHEMICAL COMPOSITION	
YIELD STRENGTH, MINIMUM PSI	60,000	ELEMENT	MAXIMUM%
TENSILE STRENGTH, MINIMUM PSI	80,000	CARBON	0.30
ELONGATION IN 8 INCH, MINIMUM	14%	MANGANESE	1.50
		PHOSPHORUS	0.035
		SULFUR	0.045
		SILICON	0.50

THE CONTRACTOR OR SUPPLIER SHALL FURNISH THE MATERIALS & RESEARCH DIVISION THE MANUFACTURERS CERTIFIED TEST REPORTS FOR THE ACTUAL HEAT OF STEEL BEING USED THAT SHOWS THE CHEMICAL AND PHYSICAL TEST RESULTS FOR THE LOOP REINFORCING STEEL BEFORE COATING OR FABRICATION BEGINS.

THE STEEL SHALL BE ZINC-COATED (GALVANIZED) AS SPECIFIED BELOW OR EPOXY COATED TO NEBRASKA STANDARDS.

ZINC-COATED (GALVANIZED) STEEL BARS SHALL MEET THE REQUIREMENTS OF ASTM A 123, (COATING GRADE 100, MINIMUM COATING--2.30 OZ. PER SQUARE FOOT). THE BARS SHALL BE FABRICATED PRIOR TO GALVANIZING. THE PROCEDURES OF ASTM A 143 SHALL BE OBSERVED AS APPLICABLE. ALL ZINC COATING DAMAGE DUE TO FABRICATION OR HANDLING SHALL BE REPAIRED WITH A ZINC DUST (ZINC-RICH) FORMULATION IN ACCORDANCE WITH ASTM A 780.

THE COATING PLANT INTENDING TO SUPPLY THE LOOP REINFORCING STEEL SHALL NOTIFY THE MATERIALS AND RESEARCH DIVISION (402-479-4746 OR 402-479-3849) TWO TO THREE WEEKS BEFORE PROCESSING ANY MATERIAL TO ARRANGE FOR NDOR PERSONNEL TO INSPECT THE MATERIAL DURING THE COATING AND FABRICATION PROCESS.

THE CONTRACTOR SHALL PROVIDE THE ENGINEER A LETTER CERTIFYING THE CONCRETE PROTECTION BARRIERS FOR USE ON THIS PROJECT ARE MADE IN ACCORDANCE WITH THESE PLANS.

THE CONTRACTOR SHALL PROVIDE FOR AN APPROVED MONITORING SCHEDULE, WITH A PERSON ON CALL, AND AVAILABLE 24 HOURS A DAY, EACH DAY OF THE WEEK, TO REALIGN CONCRETE PROTECTION BARRIER WHICH HAS BEEN STRUCK. INITIATION OF SERVICE SHALL BE WITHIN ONE HOUR OF NOTIFICATION OF NEED.

(1) 4" DIAMETER PVC OR 11 GAUGE STEEL ROUND MECHANICAL TUBING SLEEVE.

(2) ONE END OF EACH BARRIER SHALL BE PERMANENTLY MARKED WITH THE FOLLOWING INFORMATION:

- TYPE B
- MANUFACTURER
- DATE MANUFACTURED (MONTH AND YEAR)

USE 1½" DIA. ASTM A 307 ANCHOR BOLTS WITH HEAVY HEX NUT & WASHER (A36). USE ASTM A36 MATERIAL FOR THE CONNECTION PIN.

SURFACE PREPARATION: WHEN PLACED ON A PAVED SURFACE ALL LOOSE DIRT AND SAND SHALL BE REMOVED FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

BARRIERS MUST BE PULLED TIGHT DURING INSTALLATION TO REMOVE SLACK.

AT NO TIME SHALL THE BARRIERS BE LIFTED BY USE OF THE LOOP BARS: 601, 602 OR 603.

PROFESSIONAL CIVIL ENGINEER · Philip C. Tarpenning E-7158 · STATE OF NEBRASKA

CONCRETE PROTECTION BARRIER
SHEET 1 OF 2
SPECIAL PLAN 5C

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SHEET 2 OF 2

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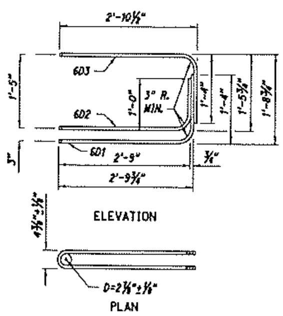
Roadway Design Division

Added Sheet 130A

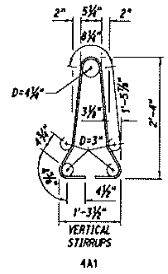
(R2) ADDED SHEET

PROJECT NO.	SHEET NO.
ENH-28(89)	
C.N. 22252	



LOOP BAR ASSEMBLY

(MARKED END SHOWN, ROTATE FOR OTHER END)
(MATERIAL AS STATED IN GENERAL NOTES)
(DIMENSIONS ARE OUT TO OUT OF BARS UNLESS OTHERWISE NOTED)



REINFORCING STEEL A615 GRADE 60 PER 12'-6" BARRIER					
BAR	BAR SIZE	SHAPE	NO. OF BARS	LENGTH FT.	WEIGHT LBS.
4A1	4	Λ	12	6'-0"	48.1
5B1	5	——	3	12'-2"	38.1
4C1	4	——	2	12'-2"	16.3
LOOP STEEL (SEE NOTES)					
6D1	6	⌐	2	8'-5"	25.3
6D2	6	⌐	2	7'-7"	22.8
6D3	6	⌐	2	8'-6"	25.5

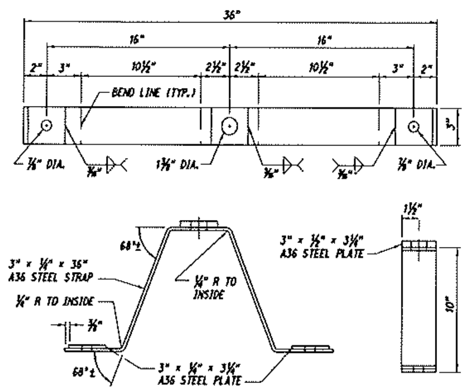
CONCRETE QUANTITY = 1.3 CU. YD.

TIE-DOWN NOTES:

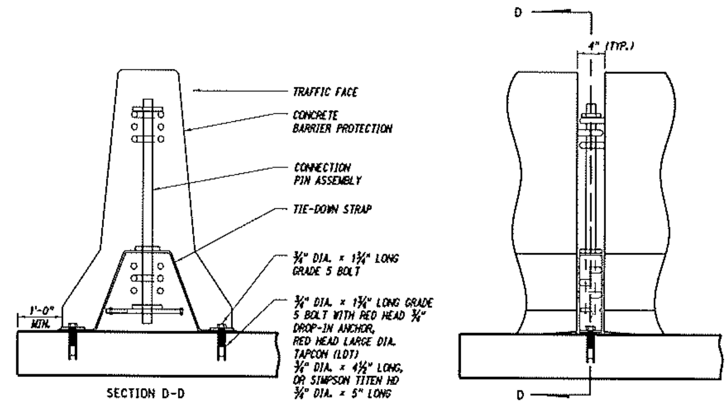
TIE DOWN STRAPS ARE REQUIRED ONLY WHERE THE CONCRETE PROTECTION BARRIER IS WITHIN 2 FEET OF A 3 FEET OR GREATER DROP-OFF. HOLES INTO THE PAVEMENT TO ANCHOR THE CONCRETE PROTECTION BARRIER MAY BE DRILLED AFTER POSITIONING THE CONCRETE PROTECTION BARRIER RAIL.

WHEN THE ANCHOR BOLTS ARE REMOVED, THE HOLES SHOULD BE FILLED WITH A NON-SHRINK GROUT FROM THE APPROVED PRODUCT LIST, MEETING THE REQUIREMENTS OF ASTM C 1107 FOR GRADE B OR C.

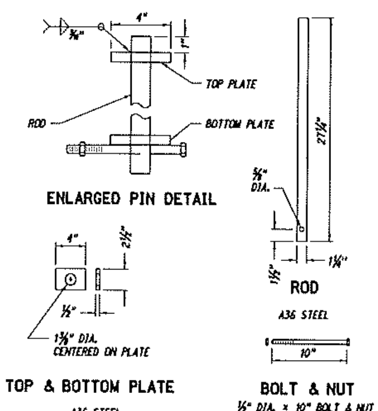
CONCRETE PROTECTION BARRIER TIE DOWNS ARE CONSIDERED SUBSIDIARY TO THE PAY ITEM "CONCRETE PROTECTION BARRIER".



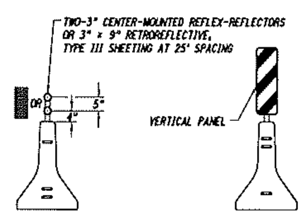
TIE-DOWN STRAP DETAILS



TIE DOWN DETAILS (STRAP)



CONNECTION PIN DETAILS



MARKER PLACEMENT DETAIL

MARKER NOTES:

REFLECTORS MOUNTED ON LEFT SIDE OF TRAFFIC SHALL BE AMBER, RIGHT SIDE SHALL BE CRYSTAL.

VERTICAL PANELS MOUNTED ON LEFT SIDE OF TRAFFIC SHALL BE VP-1L, RIGHT SIDE SHALL BE VP-1R, AT EVERY 2 x S =__(FT) SPACING ON TOP OF BARRIER, EVERY S (FT) SPACING ALONG BARRIER TAPER. INSTALL VERTICAL PANEL IN PLACE OF REFLECTOR WHEN BOTH FALL IN SAME LOCATION.
(S = POSTED SPEED LIMIT IN MPH)

THE CONTRACTOR SHALL FURNISH VERTICAL PANELS, REFLECTORS AND A BRACKET TO SUPPORT THE VERTICAL PANELS AND REFLECTORS IN A STABLE POSITION ON THE CONCRETE PROTECTION BARRIERS. THE BRACKET SHALL BE CONSTRUCTED OF A MATERIAL THAT MAY BEND, BUT NOT COME LOOSE IF STRUCK BY A PASSING VEHICLE. THE CONTRACTOR SHALL MAINTAIN THE MARKERS AND PROMPTLY REPAIR OR REPLACE ANY DAMAGED OR MISSING UNITS. ALL COSTS FOR FURNISHING, INSTALLING AND MAINTAINING REFLECTORS SHALL BE INCLUDED IN THE PRICE BID FOR THE CONCRETE PROTECTION BARRIER.

CONCRETE PROTECTION BARRIER

SHEET 2 OF 2

SPECIAL PLAN 5 C